[Federal Register Volume 87, Number 97 (Thursday, May 19, 2022)]
[Rules and Regulations]
[Pages 30405-30408]
From the Federal Register Online via the Government Publishing Office [www.gpo.gov]
[FR Doc No: 2022-10758]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2022-0099; Project Identifier 2019-CE-019-AD; Amendment 39-22045; AD 2022-10-07]

RIN 2120-AA64

Airworthiness Directives; Viking Air Limited (Type Certificate Previously Held by Bombardier, Inc. and de Havilland, Inc.) Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: The FAA is superseding Airworthiness Directive (AD) 89-24-06 R1, which applied to all Boeing of Canada, Ltd. and de Havilland (now Viking Air Limited) Model DHC-6-1, DHC-6-100, DHC-6-200, and DHC-6-300 airplanes. AD 89-24-06 R1 required repetitively inspecting the elevator quadrant for damage and taking corrective action as necessary. Since the FAA issued AD 89-24-06 R1, Transport Canada, the aviation authority for Canada, revised its mandatory continuing airworthiness information (MCAI) to correct this unsafe condition on these products. This AD retains the actions required by AD 89-24-06 R1, extends the compliance time intervals for the repetitive inspections, adds Model DHC-6-400 airplanes to the applicability, and adds a fluorescent penetrant inspection requirement. The FAA is issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective June 23, 2022.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of June 23, 2022.

ADDRESSES: For service information identified in this final rule, contact Viking Air Ltd., 1959 de Havilland Way, Sidney British Columbia, Canada V8L 5V5; phone: (800) 663-8444; email: continuing.airworthiness@vikingair.com; website: https://www.vikingair.com. You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 901 Locust, Kansas City, MO 64106. For information on the availability of this material at the FAA, call (817) 222-5110. It is also available at https://www.regulations.gov by searching for and locating Docket No. FAA-2022-0099.

Examining the AD Docket

You may examine the AD docket at https://www.regulations.gov by searching for and locating Docket No. FAA-2022-0099; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, the MCAI, any comments received, and other information. The address for Docket Operations is U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

FOR FURTHER INFORMATION CONTACT: Darren Gassetto, Aviation Safety Engineer, New York ACO Branch, FAA, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; phone: (516) 228-7323; email: 9-avs-nyaco-cos@faa.gov.

SUPPLEMENTARY INFORMATION:

Background

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to supersede AD 89-24-06 R1, Amendment 39-6670 (Docket No. 89-CE-29-AD; 55 FR 29347, July 19, 1990) (AD 89-24-06 R1). AD 89-24-06 R1 applied to all Boeing of Canada, Ltd. and de Havilland (type certificate currently held by Viking Air Limited) Model DHC-6-1, DHC-6-100, DHC-6-200, and DHC-6-300 airplanes. AD 89-24-06 R1 required repetitively inspecting the elevator quadrant, part number (P/N) C6CFM 1138-27 (Pre Mod 6/1394), P/N C6CFM 1450-27 (Post Mod 6/1394 or production cut-in (PCI) serial number (S/N) 331, Pre Mod 6/1678), or P/N C6CFM 1450-29 (Post Mod 6/1678 or PCI S/N 602), for distortion (warping, buckling, and score marks on the quadrant topside face caused by rubbing against the side of the cable guard) and replacing if distortion is found. AD 89-24-06 R1 also required inspecting the elevator quadrant mounting support bracket, P/N C6CFM 1142-1, for cracks if distortion in the elevator quadrant is found and replacing any cracked P/N C6CFM 1142-1. The FAA issued AD 89-24-06 R1 to prevent failure of the flight control system, which could result in loss of control of the airplane.

The NPRM published in the Federal Register on February 11, 2022 (87 FR 7965). The NPRM was prompted by Transport Canada AD CF-1972-06R5, dated June 22, 2018 (referred to after this as "the MCAI"), issued by Transport Canada, which is the aviation authority for Canada. The MCAI states:

> Damage to the flight control system of DHC-6 aeroplanes was found during inspection. The damage has been attributed to ground gusts. The damage included cracks in the base of the lower control column, cracks and buckles in the elevator/rudder pulley bracket, and distortion of the elevator quadrant. Damage to the elevator quadrant may produce abnormal loads on the quadrant support bracket that damage the bracket.
>
> Damaged flight control components may fail when subjected to service loads, resulting in loss of control of the aeroplane.
>
> This revision of the [Transport Canada] AD clarifies the applicability of the corrective actions and endorses Service Bulletin (SB) 6/511 as a means of accomplishing some of the required inspections. In corrective action Part III, dye penetrant inspection has been replaced by fluorescent penetrant inspection.

You may examine the MCAI in the AD docket at https://www.regulations.gov by searching for and locating Docket No. FAA-2022-0099.

In the NPRM, the FAA proposed to retain the actions of AD 89-24-06 R1, extend the compliance time intervals for the repetitive inspections, add Model DHC-6-400 airplanes to the applicability, and add a fluorescent penetrant inspection requirement.

Discussion of Final Airworthiness Directive

Comments

The FAA received a comment from the Airline Pilots Association, International, which supported the NPRM without change.

Conclusion

These products have been approved by the aviation authority of another country and are approved for operation in the United States. Pursuant to the FAA's bilateral agreement with this State of Design Authority, it has notified the FAA of the unsafe condition described in the MCAI referenced above. The FAA reviewed the relevant data, considered the comment received, and determined that air safety requires adopting the AD as proposed. Accordingly, the FAA is issuing this AD to address the unsafe condition on these products. This AD is adopted as proposed in the NPRM.

Related Service Information Under 1 CFR Part 51

The FAA reviewed Viking DHC-6 (Twin Otter) Service Bulletin 6-511, Revision A, dated June 22, 1990. This service bulletin specifies procedures for repetitively inspecting the elevator quadrant for distortion (warping, buckling, and score marks), performing a one-time dye penetrant inspection of the elevator quadrant support bracket for cracks, and taking corrective actions. This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

Differences Between This AD and the MCAI

The MCAI addresses actions on the control column lower assembly, the elevator pulley bracket system, and the elevator quadrant. This AD only requires actions on the elevator quadrant and elevator quadrant support bracket. The FAA is not requiring the repetitive inspections of the control column lower sub-assembly, lower horizontal torque tube, and top and bottom channels of the pulley bracket assembly, and the modifications that terminate those inspections, because those actions are addressed by AD 69-05-01 R2, Amendment 39-3824 (Docket No. 79-EA-63; 45 FR 45258, July 3, 1980); and AD 69-8-12 R1, Amendment 39-867 (Docket No. 69-EA-133; 34 FR 18226, November 14, 1969).

Costs of Compliance

The FAA estimates that this AD affects 133 airplanes of U.S. registry.

The FAA estimates the following costs to comply with this AD:

Estimated Costs

Action	Labor cost	Parts cost	Cost per airplane	Cost on U.S. operators
Elevator quadrant and support bracket visual inspection	0.5 work-hour × $85 per hour = $42.50	Not Applicable	$42.50 per inspection cycle	$5,652.50 (for the affected 133 airplanes) per inspection cycle.
Fluorescent penetrant inspection of the elevator quadrant support bracket	1 work-hour × $85 per hour = $85	Not Applicable	$85	$10,795 (for the affected 127 airplanes).

The FAA estimates the following costs to do any repairs or replacements that would be required based on the results of the inspections. The FAA has no way of determining the number of airplanes that might need these repairs/replacements:

On-Condition Costs

Action	Labor cost	Parts cost	Cost per airplane
Replacement of elevator quadrant	1.5 work-hours × $85 per hour = $127.50	$825	$952.50
Fluorescent penetrant inspection of the elevator quadrant support bracket	1 work-hour × $85 per hour = $85	Not Applicable	85
Replacement of elevator quadrant support bracket	2 work-hours × $85 per hour = $170	485	655

Authority for This Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

The FAA has determined that this AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

(1) Is not a “significant regulatory action” under Executive Order 12866,

(2) Will not affect intrastate aviation in Alaska, and

(3) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

PART 39–AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by:
a. Removing Airworthiness Directive 89-24-06 R1, Amendment 39-6670 (Docket No. 89-CE-29-AD; 55 FR 29347, July 19, 1990); and
b. Adding the following new airworthiness directive:

2022-10-07 Viking Air Limited (Type Certificate Previously Held by Bombardier, Inc. and de Havilland, Inc.): Amendment 39-22045; Docket No. FAA-2022-0099; Project Identifier 2019-CE-019-AD.

(a) Effective Date

This airworthiness directive (AD) is effective June 23, 2022.

(b) Affected ADs

This AD replaces AD 89-24-06 R1, Amendment 39-6670 (Docket No. 89-CE-29-AD; 55 FR 29347, July 19, 1990) (AD 89-24-06 R1).

(c) Applicability

This AD applies to Viking Air Limited (Type Certificate previously held by Bombardier, Inc. and de Havilland, Inc.) Model DHC-6-1, DHC-6-100, DHC-6-200, DHC-6-300, and DHC-6-400 airplanes, all serial numbers, certificated in any category.

(d) Subject

Joint Aircraft System Component (JASC) Code 2700, Flight Control System.

(e) Unsafe Condition

This AD was prompted by mandatory continuing airworthiness information (MCAI) originated by an aviation authority of another country to identify and correct an unsafe condition on an aviation product. The MCAI describes the unsafe condition as damage to the flight control system. The FAA is issuing this AD to prevent failure of the flight control system. The unsafe condition, if not addressed, could result in loss of control of the airplane.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Elevator Quadrant and Support Brackets: Inspections, Replacements, and Modifications

(1) Visually inspect the elevator quadrant for indications of distortion (warping, buckling, or score marks) by following paragraphs III.A.2.(a) and III.A.2.(b) of the Accomplishment Instructions in Viking DHC-6 (Twin Otter) Service Bulletin 6-511, Revision A, dated June 22, 1990 (DHC-6 SB 6-511, Revision A) at the following applicable compliance times:

(i) For Model DHC-6-1, DHC-6-100, DHC-6-200, and DHC-6-300 airplanes, before further flight after the effective date of this AD or within 400 hours time-in-service (TIS) after the last

inspection required by AD 89-24-06 R1, whichever occurs later, and thereafter at intervals not to exceed 400 hours TIS; or

(ii) For Model DHC-6-400 airplanes, before further flight after the effective date of this AD and thereafter at intervals not to exceed 400 hours TIS.

Note 1 to paragraph (g)(1): The elevator quadrant may be identified as part number (P/N) C6CFM1138-27 (Pre Mod 6/1394), P/N C6CFM1450-27 (Post Mod 6/1394 or production cut-in (PCI) serial number (S/N) 331, Pre Mod 6/1678), or P/N C6CFM1450-29 (Post Mod 6/1678 or PCI S/N 602), and is referred to as assembly P/N C6CF1137-1, -3, -5, or -7.

(2) If any indication of distortion is found on the elevator quadrant during any inspection required by paragraph (g)(1) of this AD, before further flight, replace the elevator quadrant with a serviceable part and inspect the elevator quadrant support bracket assembly for cracks by following paragraphs III.B.1. through III.B.4.(b) of the Accomplishment Instructions in DHC-6 SB 6-511, Revision A. This AD requires that you do a fluorescent penetrant inspection as the type of required dye penetrant inspection. If a crack is found in the elevator quadrant support bracket, before further flight, replace with a serviceable part by following paragraphs III.B.5 through III.B.12 of the Accomplishment Instructions in DHC-6 SB 6-511, Revision A.

(3) For Model DHC-6-1, DHC-6-100, DHC-6-200, and DHC-6-300 airplanes: Within 400 hours TIS after the effective date of this AD, unless already done within the preceding 12 months before the effective date of this AD, inspect the elevator quadrant support bracket assembly for cracks by following paragraphs III.B.1. through III.B.4.(b) of the Accomplishment Instructions in DHC-6 SB 6-511, Revision A. This AD requires that you do a fluorescent penetrant inspection as the type of required dye penetrant inspection. If a crack is found in the elevator quadrant support bracket, before further flight, replace with a serviceable part by following paragraphs III.B.5 through III.B.12 of the Accomplishment Instructions in DHC-6 SB 6-511, Revision A.

(h) Credit for Previous Actions

(1) For Model DHC-6-1, DHC-6-100, DHC-6-200, and DHC-6-300 airplanes: This paragraph provides credit for the inspection required by paragraph (g)(1) of this AD if you performed the inspection before the effective date of this AD using paragraph (a)(1) of AD 89-24-06 R1.

(2) For Model DHC-6-1, DHC-6-100, DHC-6-200, and DHC-6-300 airplanes: This paragraph provides credit for the fluorescent penetrant inspection and subsequent replacement of the elevator quadrant support bracket due to a crack found from the fluorescent penetrant inspection required by paragraph (g)(2) of this AD if performed before the effective date of this AD using paragraphs (a)(3) and (4) of AD 89-24-06 R1.

(i) Alternative Methods of Compliance (AMOCs)

(1) The Manager, New York ACO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in paragraph (j)(1) of this AD.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(j) Related Information

(1) For more information about this AD, contact Darren Gassetto, Aviation Safety Engineer, New York ACO Branch, FAA, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; phone: (516) 228-7323; email: 9-avs-nyaco-cos@faa.gov.

(2) Refer to Transport Canada AD CF-1972-06R5, dated June 22, 2018, for more information. You may examine the Transport Canada AD at https://www.regulations.gov by searching for and locating Docket No. FAA-2022-0099.

(k) Material Incorporated by Reference

(1) The Director of the Federal Register approved the incorporation by reference of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) Viking DHC-6 (Twin Otter) Service Bulletin 6-511, Revision A, dated June 22, 1990.

(ii) [Reserved]

(3) For service information identified in this AD, contact Viking Air Ltd., 1959 de Havilland Way, Sidney British Columbia, Canada V8L 5V5; phone: (800) 663-8444; email: continuing.airworthiness@vikingair.com; website: https://www.vikingair.com.

(4) You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 901 Locust, Kansas City, MO 64106. For information on the availability of this material at the FAA, call (817) 222-5110.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, email: fr.inspection@nara.gov, or go to: https://www.archives.gov/federal-register/cfr/ibr-locations.html.

Issued on May 5, 2022.

Lance T. Gant,

Director, Compliance & Airworthiness Division, Aircraft Certification Service.

[FR Doc. 2022-10758 Filed 5-18-22; 8:45 am]